ABSTRACT

A CSMA Media Access Control (MAC) scheme for supporting both centralized and distributed shared medium access control in a CSMA network. A master device exchanges connection control messages with a slave device using contention-oriented access to establish

5   a connection and a session of periodic contention-free intervals. Once the session is established, the contention-free intervals alternate with contention-oriented intervals according to the timing parameters specified by the connection control messages. Each of the contention-free intervals is divided into slots, the master transmitting in a downstream frame and the slave device transmitting an upstream frame in a following slot if the

10   downstream frame indicates a source address matching that of the master device, a contention-free access at a highest priority and a connection number corresponding to the connection established between the master device and the slave device, thus downstream frame thus serving to poll the slave device and trigger the slave device's upstream frame. Master control is passed from one device to another device during the contention-free

15   interval using additional control information, more specifically, a master flag for indicating which device has master control and a control flag for indicating the direction in which master control is being passed. Arrangements to change session parameters or change session control are made using connection control messages using contention-oriented access. Session control is passed from one device to another during a contention-free

20   interval following the exchange of appropriate connection control messages between the devices.

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